



Disease Detectives

*We wish you and yours
a happy, healthy 2011!*

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Communicable Disease Control *UPDATE*

MECKLENBURG COUNTY HEALTH DEPARTMENT *A Quarterly Publication*

Hepatitis B Outbreak

According to a N.C. Division of Public Health press release, state and local public health officials investigated a fatal hepatitis B outbreak in an assisted living center in Wayne County, N.C. Transmission probably occurred when staff used the same blood-glucose monitors on different residents. Five residents who have died since August 2010 had hepatitis B, while 3 other residents contracted the disease but survived.

Investigators with the Division of Public Health said all 8 underwent blood-glucose monitoring at the center. Residents who had diabetes were 15 times more likely to be involved in the outbreak than other residents. The investigators said the staff sometimes stored glucose monitors together and didn't label them with residents' names. According to investigators, the devices were not disinfected after each use.

The N.C. Division of Health Service Regulation (DHSR) sent operators of 1,300 adult care homes guidelines from the federal Centers for Medicare and Medicaid Services and the Centers for Disease Control regarding appropriate infection control procedures. DHSR licenses and regulates long-term care facilities.

Hepatitis B is a hardy virus and can remain stable on environmental surfaces for as long as 7 days if not properly disinfected. Hepatitis B is a blood-borne disease that is typically transmitted by exposure to blood or body fluids. Indirect inoculation can occur via inanimate objects.

The state recommended that the meters be stored in residents' rooms, disinfected after each use, and switch to single-use needles for these devices. Also, instruments should be cleaned with soap and water followed

with a bleach solution.

Dr. Jeff Engle, State Health Director, said "This should be a reminder for other long-term care facilities to review their infection control practices and make sure they're doing everything they can to protect residents from infection."

A December 2, 2010 memo from Megan Davies, MD, State Epidemiologist, to all North Carolina Health Care Providers stated the following:

"In order to prevent additional infections, the North Carolina Division of Public Health urges all health care providers to follow these basic rules for safe diabetes care:

1. **Fingerstick devices should never be used for more than one person**, even if the lancets are always changed between uses.
2. **Blood glucose meters should be assigned to an individual person and not be shared.** If blood glucose meters must be shared, they should be cleaned and disinfected according to the manufacturer's instructions after every use.
3. **Injection equipment (e.g., insulin pens, needles and syringes) should never be used for more than one person.**

Providers are also urged to report any suspected HBV infections among long-term care residents to public health authorities immediately. These infections might indicate that other residents are at risk."

For more information about hepatitis B symptoms and treatment, go to www.epi.state.nc.us or contact Beth Quinn at Elizabeth.Quinn@MecklenburgCountyNC.gov or 704.336.5398.

FDA Ban on Small Turtles



In 1975, the FDA banned the sale of small turtles—those with shells less than four inches long. This was done to reduce Salmonellosis associated with turtles, especially in young children. Despite the ongoing ban, turtle-associated Salmonella infections still occur in the United States. In 1980, the ban was estimated to prevent 100,000 Salmonella cases in children under 10. In 1976, North Carolina law expanded the ban to include all turtles and now says: “No turtle shall be sold, offered for sale, or bartered by any retail or wholesale establishment in North Carolina.”

The article “Multistate Outbreak of Salmonella Infections Associated with Small Turtle Exposure, 2007-2008” published in **PEDIATRICS (Vol. 124, Number 5, November 2009)** documents the largest reported outbreak of turtle-associated Salmonella in the United States and describes a multistate outbreak of human salmonella serotype Paratyphi B (var Java).

This article summarizes the following series of events:

- On Sept. 1, 2007, South Carolina was notified of the first case.
 - A contact from North Carolina was identified. Both N.C. and S.C. determined that both cases swam in a salt-filtered in-ground pool with 2 small turtles.
 - N.C. data base identified 3 additional cases with the same DNA pattern.
 - In October 2007, 4 additional cases were identified in Wisconsin, Ohio and Washington.
 - On October 24, 2007, the CDC and state health departments started a multistate investigation to determine the extent and cause of illnesses.
- Results of the investigation: 107 laboratory-confirmed Salmonella Paratyphi B var Java with the same outbreak pattern were identified from 34 states. No deaths were reported. Most infections occurred in young children with a history of small turtle exposure. Fewer than 30% of persons interviewed, including families with young children who own turtles, seem to be aware of the risk of Salmonellosis from reptile exposure. Although some retail shops may provide information on the risks of Salmonella infections, in many states there is no legal obligation for them to do so. Repeated attempts to generate Salmonella-free turtles have not been successful and have resulted in the development of antibiotic resistant Salmonella in turtles and turtle eggs.

This study and other studies of reptile-associated Salmonella have documented infection associated with indirect reptile contact and an increased risk of infection simply by having a reptile in the household, underscoring the multiple ways that Salmonella can be passed from turtles to owners.

Preventive Measures:

- Don't buy small turtles for pets or gifts.
- Keep turtles out of homes with children under the age of 5 years, elderly people or persons with weakened immune systems.
- Turtles should not be allowed to roam freely in homes, especially in food preparation areas.
- Always wash hands thoroughly with soap and water after touching turtles.

For more information, contact Freda Grant at 704.336.6436 or Freda.Grant@MecklenburgCountyNC.gov.

This periodical is written and distributed quarterly by the Communicable Disease Control Program of the Mecklenburg County Health Department for the purpose of updating the medical community in the activities of Communicable Disease Control. Program members include: Health Director—E. Wynn Mabry, MD; Medical Director—Stephen R. Keener, MD; Deputy Health Director—Bobby Cobb; Director, CD Control—Carmel Clements; Sr. Health Manager—Lorraine Houser; CD Control nurses—Freda Grant, Jane Hoffman, Penny Moore, Elizabeth Quinn, Belinda Worsham; Childcare nurse—Elizabeth Young; TB Outreach/Adult Day Health nurse—Earlene Campbell-Wright; Health Program Coordinator/Supervisor, HIV/STD—Carlos McCoy; DIS—Mary Ann Curtis, John Little, Michael Rogers, Jose' Pena; Rabies/Zoonosis Control—Al Piercy; Preparedness Coordinator—Bobby Kennedy; Preparedness Health Program Coordinator/Supervisor—Steve Newman; Regional Surveillance Team—Health Program Coordinator/Supervisor—Diane Thomas; Epi Specialist—Valerie Lott; Denise Wall, RN; Adm. Support—Vivian Brown; Office Assistants—Audrey Elrod, Natalie Jones

Lorraine Houser
Carmel Clements
Editors

Bed Bug Blight



The United States is experiencing an alarming resurgence of bed bugs (*Cimex lectularius*). The cause of the resurgence is not fully understood

but thought to be related to the increased resistance of bed bugs to pesticides, increased domestic and international travel, lack of experience in prevention and control of bed bugs, and the decline of pest control programs in state and local health departments. On August 5, 2010, the CDC and the U.S. Environmental Protection Agency (EPA) issued a joint statement on the control of bed bugs. The joint statement is available at www.cdc.gov.

Bed bugs are blood-sucking parasites similar to head lice. Small, flat, reddish-brown, wingless insects ranging in size from 1-7 millimeters in length, they can hide and live months without a blood meal. They find humans by following warmth, blood and carbon dioxide. They tend to live within 8 feet of a sleeping area but can travel over 100 feet every night. They hide during the day in the seams of

mattresses, box springs, bed frames, headboards, dresser tables, crevices, behind wallpaper, behind picture frames, sofas, and under objects around a bed. Infestations have been found in apartments, shelters, rooming houses, hotels, nursing homes, hospitals, cruise ships, buses, trains and dormitories. In addition to inspection for live bed bugs, look for small dark spots (bug excrement), tiny white eggs, eggshells, insect skins, and reddish stains on linens or mattresses.



Fortunately, bed bugs are not known to transmit diseases. Bites from bed bugs can lead to allergic reactions, secondary infections, and mental distress (anxiety, insomnia). The bites are initially painless (due to the injection of an anesthetic and an anticoagulant) but later become large, itchy skin welts.

Bed bug infestations can result in economic losses. The cost of multiple visits from a licensed pest control

operator can be substantial. Controlling bed bugs requires an integrated approach which may include monitoring devices, removing clutter, application of heat or cold, vacuuming, sealing cracks, non-chemical pesticides, and effective chemical pesticides. Effective control typically involves employing a licensed pest control professional.

The Mecklenburg County Environmental Health Division is authorized to investigate complaints associated with some facilities including hotels, motels, summer camps, schools, nursing homes, hospitals, and child care centers; however, the county is not authorized to investigate complaints in boarding homes, apartments, rental property, or other private property.

The City of Charlotte is authorized to investigate complaints in apartments or rental property within the city limits.

For further information, contact Jane Hoffman at 704.336.5490 or Jane.Hoffman@MecklenburgCountyNC.gov.

MCHD Featured Service—Project ASSIST



Project ASSIST aims to eliminate exposure to second-hand smoke

by working with local partners to educate elected officials and employers on the importance of adopting smoke-free policies. The project promotes tobacco cessation and ways to prevent youth initiation of tobacco use. It also works on identifying and eliminating the disparities related to tobacco use and its effects among different population groups.

For more information or to schedule training, call 704.336.4660.

Services offered:

Helps worksites adopt smoke-free policies

Save money and lives by protecting your employees from secondhand smoke. **Project ASSIST** helps businesses make their work place smoke free.

Tobacco cessation counseling training for healthcare professionals

Project ASSIST encourages healthcare professionals to take part in 5As training. A 5-step approach to smoking cessation, the training is part of clinical guidelines recommended by the U.S. Public Health Service. Our goal is to give the professionals an in-service training that will help them offer 5As cessation counseling to more people. **Project**

ASSIST will provide the training for free and is flexible on the venue as well as time of the training.

Promotion of Quitline

Project ASSIST promotes the North Carolina Tobacco Use Quitline, where tobacco users can call and get help in quitting. Services are free and available to anyone within the state 8 a.m. until 3 a.m. daily. Spanish language Quit Coaches are available, and translation services are available for many other languages. Call 1.800.784.8669. Quit Coaches help a quitter assess his or her tobacco addiction, and set up a plan to quit. They can even call back, on request, to check on progress and sign quitters up for an on-line program.

Cholera : An Ancient Pathogen



Vibrio cholerae is a gram negative, rod-shaped or curved bacterium that

causes the characteristic cholera symptom of watery diarrhea in humans. Once acquired, humans dehydrate quickly and if no medical intervention (rehydration, antibiotics and prevention of shock) is obtained, death can occur within hours. The bacterium is not spread from human to human; therefore, casual contact does not put people at risk. Cholera is almost always spread in drinking water and food contaminated by human sewage. Since the 1800's, proper sanitation and clean drinking water supplies have proven to stop epidemics of cholera. Today, scientists recognize cholera as being one of the few bacterial illnesses capable of true pandemic spread and is a reportable disease worldwide.

There are two recognized types of *V. cholerae*: serogroup O1 most often causes a severe form of cholera; and non-O1 serogroup O139 that causes illness to a lesser extent. About 70 other species exist but rarely cause diarrheal illness in humans. Once either pathogen is ingested by way of impure drinking water or eating food contaminated with unclean water and sometimes by eating raw or partially cooked shellfish, incubation may be hours or days before symp-

toms begins. Next, *V. cholerae* travels to the small intestine, multiplies rapidly, and produces a toxin (protein) which directly results in diarrhea. This facultative anaerobic bacteria surviving with or without oxygen continues to produce large amounts of toxin so that dehydration is difficult to control without professional medical intervention. Cholera has been contracted by Americans consuming raw or undercooked shellfish from the Gulf of Mexico.

Medical historians recognized that cholera existed in the ancient and medieval worlds but was not well documented until emerging in the Ganges delta area of India during the early 1800's. The disease then spread from India to Europe, Britain and on to Ireland. Immigrant ships transported both humans and disease to North America. Rapidly the disease spread to Latin and South America. The great migration of Europeans to the Americas during the 1800's brought the scourge to every country in the Western hemisphere.

John Snow, an English physician and epidemiologist, suggested that cholera was a contagion spread by sewage-contaminated water during the 1854 outbreak in London. Filippo Pacini, an Italian physician, saw cholera come to Florence in 1850's and began to conduct autopsies on patients who had died from this disease. With newer microscopes, he discovered a "comma" shaped bacil-

lus he named *Vibrio* during histological examination of intestinal mucosa. Finally Robert Koch, a German physician, isolated the causative bacterium and widely published his findings in medical journals during 1883. Although Dr. Koch is given much of the credit for discovery of the bacterium that became known as *V. cholerae*, many physicians had contributed to his understanding of cholera. Most notably he isolated the bacterium by way of preparing microscopic slides covered with a liquid gelatin to form transparent and permanent smears, dried with heat, which permitted detailed study with the microscope.

Once again cholera has emerged in the Americas. Haiti experienced the onset of an Asian strain of *V. cholerae* after the devastating earthquakes in January 2010. This epidemic has now killed 2,000 people with thousands of others sickened. Although there are available vaccines, there are not enough doses of the medicine available to vaccinate Haiti's entire population. The CDC does not recommend vaccination for travelers. In lieu of vaccinations, health care volunteers from around the world are concentrating on treating the ill while improving sewage disposal and protection of water supplies to end the epidemic.

For more information, contact Al Piercy at 704.336.6440 or Alford.Piercy@MecklenburgCountyNC.gov.

2010 STD Treatment Guidelines



On December 17, 2010, the CDC released the 2010 Sexually Transmitted Diseases (STD) Treatment Guidelines. The information in the report updates the 2006 guidelines. The

updated guidelines includes new information on cervicitis, trichomoniasis, bacterial vaginosis, genital warts, chlamydial infections, lymphogranuloma venereum, Mycoplasma genitalium, syphilis, gonorrhea, hepatitis C, sexual assault, and STD prevention.

The new STD Treatment Guidelines and information on registering for the webinar **2010 STD Treatment Guidelines: An Overview for Professionals** given by CDC and the NNPTC (National Network of STD/HIV Prevention Training Centers) on January 13, 2011 can be found online at www.cdc.gov.

Meet CD Control



From left: Sr. Nurses: Earlene Campbell-Wright, Penny Moore, Beth Quinn, Freda Grant, Belinda Worsham, Carmel Clements, (Division Director), Beth Young, Jane Hoffman, Natalie Jones (Administrative Assistant)

* Earlene Campbell-Wright began working for the Health Department in 1993, starting with School Health, CAP/DA, and then moved to DSS before returning to the Health Department in 2008, joining CD Control as TB/Adult Day Health Specialist.

* Wilma "Penny" Moore, joined CD Control in 2007. Her background includes nursing education, long term care, hospital and home health nursing.

* Beth Quinn has worked in public

health for 22 years. She started in Gaston County in 1988 and came to the Mecklenburg County Health Department in 1996 where she worked in TB Clinic. From 1998 until 2002, she worked as a clinical trials coordinator for the CDC's Tuberculosis Trials Consortium. She has been with CD Control since 2002.

* Freda Grant has been with the Health Department since 1986. Working in home health, women's health, CAP/DA, and refugee health, she found her home in CD Control in 2005.

* Belinda Worsham worked at the Health Department from 1984 to 1990. She started an employee health program and worked in immunization, international travel, hypertension, and refugee clinics. In 2002 she returned to the Health Department as part of the newly formed Public Health Regional Surveillance Team (PHRST). She joined CD Control in 2006.

* Carmel Clements joined the Health Department in 1985 and worked in home health, international travel and refugee clinics and CD Control before becoming division director of CD Control.

* Beth Young has been a Public Health Nurse since 2003 and joined CD Control in 2007 as the Child Care Nurse Consultant.

* Jane Hoffman has been with the Health Department since 1983. In 1992, she earned her Masters in Public Health. Her areas of interest and expertise include communicable disease control and epidemiology.

* Natalie Jones has been with the Health Department since 1980. She worked in family planning, maternity, and the Environmental Health Division. She also worked for the Sheriff's Department, Women's Commission, Register of Deeds and Fiscal Control before coming to CD Control in 2004. Natalie will be retiring in the spring of 2011.

Cholera in Haiti/Travel Indications

Cholera is a potentially fatal bacterial infection that causes severe diarrhea and dehydration. An **"Outbreak Notice"** has been issued by the CDC because an epidemic cholera strain has been confirmed in Haiti, causing the first cholera outbreak in many years. This outbreak is of particular concern given the current conditions in Haiti, including poor water and sanitation, a strained public health infrastructure, and large numbers of people displaced by the January earthquake and more recent flooding.

The majority of cases have been reported in the Artibonite Departmente, approximately 50 miles north of Port-au-Prince. Affected hospitals are being strained by the large num-

ber of people who are ill.

At this time, CDC and the U.S. Department of State maintain travel warnings for Haiti recommending that U.S. citizens avoid all nonessential travel to Haiti. Most travelers are not at high risk for getting cholera, but people who are traveling to Haiti should still take their own supplies to help prevent the disease and to treat it. Items to pack include:

- A prescription antibiotic to take in case of travelers' diarrhea
- Water purification tablets*
- Oral rehydration salts*

* In the U.S. these products can be purchased at stores that sell equipment for camping or other outdoor activities.

Cholera should be suspected in any patient returning from Haiti presenting with severe watery diarrhea and vomiting with severe dehydration. The patient may complain of painful cramping in the legs due to electrolyte disturbances. The incubation period of cholera is between two hours and five days. Diagnosis and treatment guidelines can be found at www.cdc.gov.

All suspected or confirmed cases of cholera should be reported to the local health department immediately or the on-call epidemiologist (available 24/7) at NC DHHS at 919.733.3419.

For more information, contact Belinda Worsham at 704.336.5498 or Belinda.Worsham@MecklenburgCountyNC.gov.

North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch • Immunization Branch (WCH Section)



ATTENTION PHYSICIANS/HOSPITALS:
Mail/fax this form to your local health department.

Mecklenburg County Health Department
700 North Tryon St., Ste. 214
Charlotte, NC 28202

Sexually Transmitted Diseases, HIV & AIDS
(Call) 704.432.1742 or (Fax) 704.336.6200

All Other Reportable Communicable Diseases
(Call) 704.336.2817 or (Fax) 704.353.1202

Confidential Communicable Disease Report—Part 1

NC DISEASE CODE
(see reverse side for code)

DATE OF SYMPTOM ONSET

Patient's First Name		Middle	Last	Suffix	Maiden/Other	Alias
Birthdate (mm/dd/yyyy)		Sex <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Trans.		Parent or Guardian (of minors)		Patient Identifier SSN
Patient's Street Address			City	State	ZIP	County Phone () - -
Age	Age Type <input type="checkbox"/> Years <input type="checkbox"/> Months <input type="checkbox"/> Weeks <input type="checkbox"/> Days	Race (check all that apply): <input type="checkbox"/> White <input type="checkbox"/> Black/African American <input type="checkbox"/> American Indian/Alaska Native <input type="checkbox"/> Native Hawaiian or Pacific Islander		Ethnic Origin <input type="checkbox"/> Asian <input type="checkbox"/> Hispanic <input type="checkbox"/> Other <input type="checkbox"/> Non-Hispanic		Initial Source of Report to Public Health: <input type="checkbox"/> Health Care Provider (specify): <input type="checkbox"/> Hospital <input type="checkbox"/> Private clinic/practice <input type="checkbox"/> Health Department <input type="checkbox"/> Correctional facility <input type="checkbox"/> Laboratory <input type="checkbox"/> Other Name: _____ Contact Person/Title: _____ Phone: () - - Fax: () - - Date Local Health Department Notified: _____
Was patient hospitalized for this disease? (>24 hours) <input type="checkbox"/> Yes <input type="checkbox"/> No		Did patient die from this disease? <input type="checkbox"/> Yes <input type="checkbox"/> No		Is the patient pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No		Where was disease/condition most likely acquired? <input type="checkbox"/> In patient's county of residence <input type="checkbox"/> Outside county, but within NC - County: _____ <input type="checkbox"/> Out of state - State/Territory: _____ <input type="checkbox"/> Out of USA - Country: _____ <input type="checkbox"/> Unknown
Patient is associated with (check all that apply): <input type="checkbox"/> Child Care (child, household contact, or worker in child care) <input type="checkbox"/> School (student or worker) <input type="checkbox"/> College/University (student or worker) <input type="checkbox"/> Food Service (food worker) <input type="checkbox"/> Health Care (health care worker) <input type="checkbox"/> Correctional Facility (inmate or worker) <input type="checkbox"/> Long Term Care Facility (resident or worker) <input type="checkbox"/> Military (active military, dependent, or recent retiree) <input type="checkbox"/> Travel (outside continental United States in last 30 days)						
Local Health Department Use Only Was this disease part of a recognized outbreak? <input type="checkbox"/> Yes <input type="checkbox"/> No Outbreak setting: <input type="checkbox"/> Restaurant/Retail (name): _____ <input type="checkbox"/> Household (index case): _____ <input type="checkbox"/> Child Care (name): _____ <input type="checkbox"/> Other (specify): _____ <input type="checkbox"/> Community (index case): _____				Local Health Department Use Only Communicable Disease Nurse or Designee Reporting to DPH: Name: _____ Phone: () - - Date sent to DPH: _____ Local Health Director's Signature or Stamp Approving Report		

CLINICAL INFORMATION

Specify patient symptoms and treatment:

For sexually transmitted diseases only—if patient was treated, specify medication, dosage, & duration:

DIAGNOSTIC TESTING

LABORATORY TESTING:

Collection Date	Result Date	Type of Test	Specimen Source	Results (include serogroup/type)	Reference Range	Lab Name—City/State
Attach Lab Report						

Reporting Communicable Diseases – Mecklenburg County

To request N.C. Communicable Disease Report Forms, telephone 704.336.2817

Mark all correspondence "CONFIDENTIAL"

Tuberculosis:

TB Clinic	704.432.2490
Mecklenburg County Health Department	FAX 704.432.2493
2845 Beatties Ford Road	
Charlotte, NC 28216	

Sexually Transmitted Diseases, HIV, & AIDS:

HIV/STD Surveillance	704.432.1742
Mecklenburg County Health Department	FAX 704.336.6200
700 N. Tryon Street, Suite 214	
Charlotte, NC 28202	

All Other Reportable Communicable Diseases including Viral Hepatitis A, B & C:

Report to any of the following nurses:

Freda Grant, RN	704.336.6436
Jane Hoffman, RN,	704.336.5490
Elizabeth Quinn, RN	704.336.5398
Belinda Worsham, RN	704.336.5498
Penny Moore, RN	704.353.1270
Communicable Disease Control	FAX 704.353.1202
Mecklenburg County Health Department	
700 N. Tryon Street, Suite 271	
Charlotte, NC 28202	

Animal Bite Consultation / Zoonoses / Rabies Prevention:

Al Piercy, RS	704.336.6440
Communicable Disease Control	FAX 704.432.6708
Mecklenburg County Health Department	
618 N. College St.	
Charlotte, NC 28202	
or State Veterinarian, Carl Williams, DVM	919.707.5900
State after hours	919.733.3419

Child Care Nurse Consultant:

Elizabeth Young, RN	704.336.5076
Communicable Disease Control	FAX 704.353.1202
Mecklenburg County Health Department	
700 N. Tryon Street, Suite 271	
Charlotte, NC 28202	

Suspected Food borne Outbreaks / Restaurant, Lodging, Pool and Institutional Sanitation:

Food & Facilities Sanitation	(Mon-Fri)	704.336.5100
Mecklenburg County Health Department	(evenings; Sat/Sun)	704.432.1054
700 N. Tryon Street, Suite 208	(pager evenings; Sat/Sun)	704.580.0666
Charlotte, NC 28202	FAX	704.336.5306

Mecklenburg County Health Department